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10/586,860

07/21/2006

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EXAMINER

KWON, ASHLEY M

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

05/21/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/586,860 | Applicant(s) WATANABE ET AL. | |
| | Examiner ASHLEY KWON | Art Unit 1795 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/22/08, 1/23/08, 7/21/06</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "said effluent recovery port" in the second line of claim 8. There is insufficient antecedent basis for this limitation in the claim. For the purposes of this rejection, claim 8 will be interpreted as depending on claim 5 instead of claims 1 or 2.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

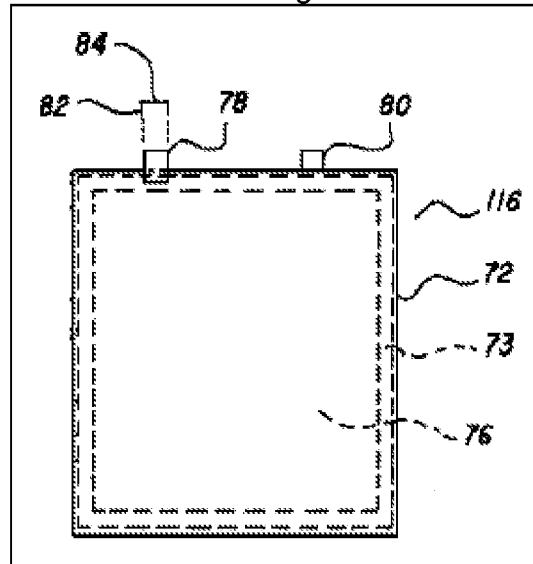
Claims 1-4, and 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Kinkelaar et al. (machine translation of JP Pub. No. 2003-109633) (hereinafter "Kinkelaar").

Regarding claim 1, Kinkelaar discloses a fuel cartridge (container, 72) for a fuel cell, that is stored with liquid fuel to be directly supplied to a fuel electrode of the fuel cell

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(see paragraph 1) and that is attachable and detachable to/from said fuel cell (see paragraph 16), is characterized in that the fuel cartridge comprises: a fuel supply part (seal cap, 82; film, 84) for supplying said liquid fuel to said fuel cell; and a fuel introduction part (liquid fuel exit, 78) that can be opened and closed and that is used for refilling said liquid fuel into said fuel cartridge for said fuel cell (see paragraph 56, see drawing 21). It is clear from drawing 21 that the seal cap and film are detachable from the fuel exit and can be opened and closed to refill the fuel reservoir.

Drawing 21



Regarding claim 2, Kinkelaar discloses the fuel cartridge for the fuel cell according to Claim 1, is characterized in that an opening (liquid fuel exit, 78) is arranged in a wall portion of a storage chamber stored with said liquid fuel (see drawing 21), said fuel introduction part (seal cap, 82; film, 84) includes said opening and a closing member (seal cap, 82) for closing said opening, and said closing member is attachable and detachable to/from said wall portion (see drawing 21).

Regarding claim 3, Kinkelaar discloses the fuel cartridge for the fuel cell according to Claim 1 or 2, is characterized in that said fuel supply part (seal cap, 83; film, 84) is arranged in said fuel introduction part (liquid fuel exit, 78) (see drawing 21). It is clear from drawing 21 that once the seal cap and film are attached to the fuel exit, they are integral and the seal cap and film are arranged in the liquid fuel exit.

Regarding claim 4, Kinkelaar discloses the fuel cartridge for the fuel cell according to Claim 1 or 2 is characterized in that said fuel supply part (seal cap, 83; film, 84) is sealed by a self-sealing member (see paragraph 16). Kinkelaar discloses that the liquid fuel can be introduced into a spent fuel reservoir by hypodermic needle through a film, and that the film reseals the cavity after fuel introduction.

Regarding claim 9, Kinkelaar discloses the fuel cartridge for the fuel cell according to Claim 1 or 2, is characterized in that a part of said fuel introduction part (liquid fuel exit, 78) is made by a fuel absorption member (wicking structure, 73) that absorbs said liquid fuel, and wherein said fuel absorption member is arranged in said fuel cartridge (see drawing 21). The fuel exit disclosed by Kinkelaar will be interpreted as the opening of the exit and the structure within the container leading to the exit. It is clear from drawing 21 that the wicking structure extends into the fuel exit.

Regarding claim 10, Kinkelaar discloses the fuel cartridge for the fuel cell according to Claim 9, is characterized in that said fuel absorption member is attachable and detachable to/from said fuel introduction part. Barring further specification on “attachable and detachable”, the fuel absorption member was detached from the container and fuel introduction part before assembly, and was attached after being

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assembled into the fuel cartridge. Furthermore, it has been held that recitation that an element is “capable of” (“attachable” and *detachable”) performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

Regarding claim 11, Kinkelaar discloses the fuel cartridge for the fuel cell according to Claim 1 or 2, is characterized in that said fuel cartridge can be stored in an electronic device (mobile apparatus, see paragraph 13). It is anticipated that the mobile apparatus is an electronic device because a fuel cell provides electricity.

Regarding claim 12, Kinkelaar discloses a fuel cell is characterized in that the fuel cell comprises a fuel cell main body having a fuel electrode; and the fuel cartridge for the fuel cell according to Claim 1 or 2, which is stored with liquid fuel to be directly supplied to said fuel electrode (see paragraph 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

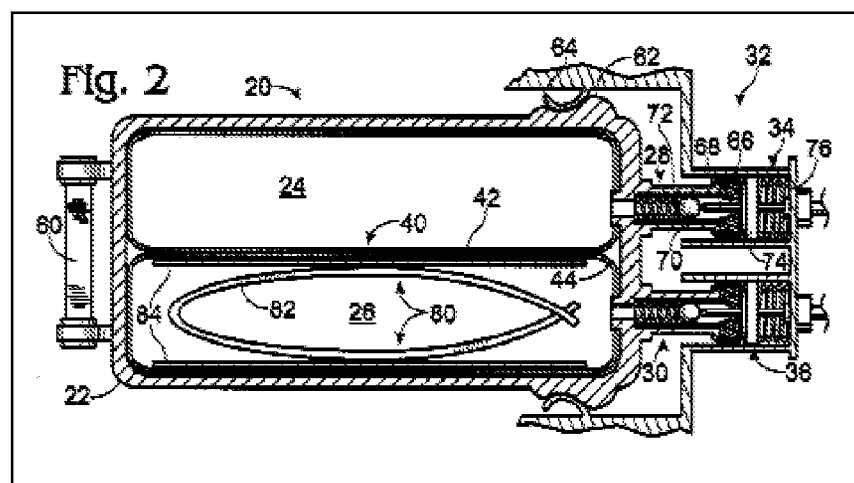
The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinkelaar as applied to claims 1-4 and 9-12 above, and further in view of Prasad et al. (US Pat. Pub. 2003/0082427) (hereinafter "Prasad").

Regarding claim 5, Kinkelaar fails to disclose the fuel cartridge for the fuel cell according to Claim 1 or 2, is characterized in that the fuel cartridge comprises a first chamber for holding said liquid fuel; a second chamber to which effluent that has passed through said fuel electrode is introduced, and a partition wall for partitioning said first chamber and said second chamber, said first chamber has said fuel supply part and said fuel introduction part, and said second chamber has an effluent recovery port to which said effluent recovered from said fuel electrode is introduced.

However, Prasad teaches the fuel cartridge (fuel supply, 20) comprises a first chamber (fuel storage area, 24) for holding said liquid fuel; a second chamber (waste storage area, 26) to which effluent that has passed through said fuel electrode is introduced (see paragraph 21), and a partition wall (movable barrier or divider, 40; see paragraph 26) for partitioning said first chamber and said second chamber, said first chamber has said fuel supply part and said fuel introduction part (fuel solution outlet, 28), and said second chamber has an effluent recovery port (waste inlet, 30) to which said effluent recovered from said fuel electrode is introduced (see paragraph 21, see fig. 2). The combination of familiar elements is likely to be obvious when it does no more than yield predictable results. See *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1395 – 97 (2007) (see MPEP § 2143, A.). Therefore, it would have been obvious to a person of ordinary skill in the art to combine the fuel supply containing a fuel storage area and waste storage area taught by Prasad with the liquid fuel cell taught by Kinkelaar in order to provide an area for the waste solutions to be fed to (*Prasad*: see paragraph 24).



Regarding claim 6, Kinkelaar in view of Prasad discloses the fuel cartridge for the fuel cell according to Claim 5, is characterized in that said second chamber has an effluent discharge part (*Prasad*: connector, 36) that can be opened and closed and that is used to discharge said effluent. Absent further specification on what is being “discharged”, Prasad discloses that the waste inlet is coupled to connector 36, and that the waste, or effluent, is passed into, or discharged, from the fuel cell into waste storage area 26 through waste inlet 38 (see paragraphs 21 and 36). The connector contains a redundant septum/ball-and-spring valve system which opens and closes the connector (see paragraph 36) (see fig. 2). Furthermore, the fact that the effluent discharge part is “used to discharge said effluent” is considered functional language. Since the connector disclosed by Prasad is capable of performing this function, it meets the claim.

Regarding claim 7, Kinkelaar in view of Prasad discloses the fuel cartridge for the fuel cell according to Claim 6, is characterized in that said effluent discharge part (*Prasad*: connector, 36) is provided with said effluent recovery port (waste inlet, 30) (see fig. 2).

Regarding claim 8, Kinkelaar in view of Prasad discloses the fuel cartridge for the fuel cell according to Claim 5, is characterized in that said effluent recovery port (waste inlet, 30) is sealed by a self-sealing member (self-sealing connector (septum/ball-and-spring”), see paragraph 36).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ASHLEY KWON whose telephone number is (571)270-7865. The examiner can normally be reached on Monday to Thursday 7:30 - 6 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AK

/PATRICK RYAN/
Supervisory Patent Examiner, Art Unit 1795

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